Sierra Nevada Mountain Ecosystem

Narrator

Sun

Sierra Nevada Mountain Ecosystem

Sierra Nevada Mountain Ecosystem

Grass

Producer

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Rabbit

Primary Consumer

4 Steps in the Energy Pyramid
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Coyote

Secondary Consumer

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Mountain Lion

Tertiary Consumer

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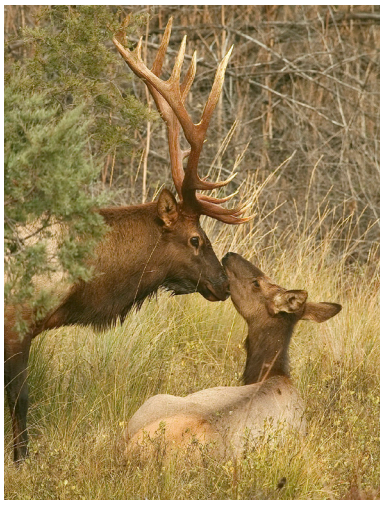
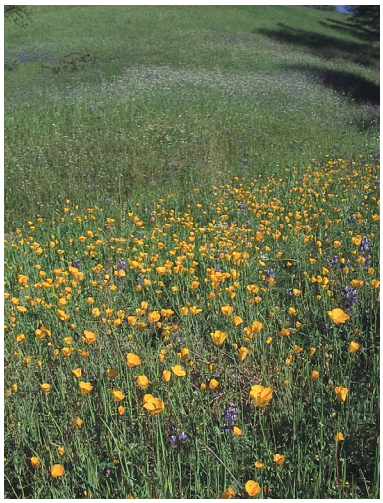
Bear

This animal is an omnivore. It eats seeds, fruits, salmon, small mammals like squirrels or mice, as well as large mammals, such as elk and mule deer. It only gets about 10-15% of its diet from animals.



Elk

This animal eats mostly grasses.

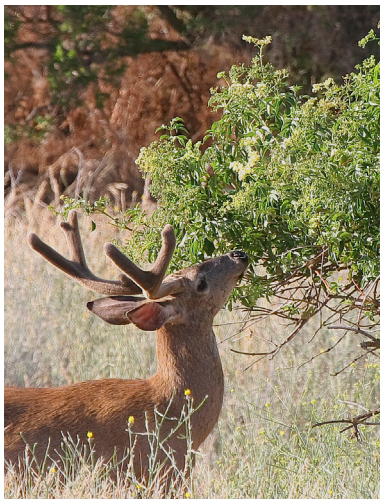


Grasses

These plants get their energy from the Sun.

Mountain Lion

This animal is a carnivore. It eats mostly large mammals, such as deer and elk. It might also eat smaller mammals.



Mule Deer

This animal is an herbivore. It eats mostly shrubs.

Salmon

This animal is mainly a carnivore. It eats insects and other invertebrates when young, and fish, shrimp, and squid when older.

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Seeds and Fruit

These plants get their energy from the Sun.

Shrubs

These plants get their energy from the Sun.

Squirrel

This animal is an herbivore. It eats seeds and fruits which came from plants.

Wolverine

This animal is an omnivore. It relies on deer and elk for most of its energy, but will also hunt small mammals, salmon, and young birds. It even eats occasional seeds and fruits as part of its diet.

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Trapping Wolverines

Trapping wolverines in California was common in the late 1800s. Wolverines were seen as pests. In some places, they were trapped for their fur.

In California, trapping wolverines is now illegal. In other parts of North America, such as Alaska and Canada, people still hunt wolverines for their fur.

How might trapping wolverines affect the food web in the wolverine's ecosystem?

Mining and Development

In the 1800s in California, people built mines to find gold. They also built roads, farms, and towns to support mining. All of these practices break deer and wolverine habitat into small, unconnected pieces. This makes it harder for deer and wolverines to survive. Mining for minerals and oil still occurs in many deer and wolverine habitats around the world.

How might mining and development affect the food web in the wolverine's ecosystem?

Burning Fossil Fuels

People burn fossil fuels to make electricity and run their cars. Burning fossil fuels puts carbon dioxide into the atmosphere. This helps trap Earth's heat and may cause temperatures to go up. If temperatures increase, the amount of snow in the mountains may decrease.

How might burning fossil fuels affect the food web in the wolverine's ecosystem?

Recreation

In many cold regions where the wolverine lives, people like to ride snowmobiles. These loud machines can disturb deer and wolverines, making it harder for them to survive.

How might recreation in the wolverine's habitat affect the food web in the wolverine's ecosystem?

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Hunting Mountain Lions

Currently, hunting mountain lions is illegal in California. There are some exceptions. The Department of Fish and Game may kill a mountain lion if it is killing livestock or pets, threatening public safety, or threatening bighorn sheep. In general, though, hunting of mountain lions is not allowed.

Laws can be changed.

What do you think would happen if the law changed? What might happen if people began hunting mountain lions again?

Fire Suppression

Fires occur regularly in California. They open up forests and allow young shrubs and other plants with seeds and fruits to grow. As people build more homes and businesses in California, they worry more about fire. For many decades, Californians have suppressed, or tried to prevent, forest fires. Fire suppression leads to forests that are dense. These forests have fewer shrubs and fewer plants that bears eat.

How might fire suppression affect the food web in the wolverine's ecosystem?

Building Dams

To produce electricity and control water supplies, Californians have built dams across rivers. Some dams prevent salmon from going up rivers to reproduce. This reduces the salmon population.

How might building dams affect the food web in the wolverine's ecosystem?

Livestock Grazing

Cows, sheep, and other grazing livestock change the areas where they eat. Ranchers control where their livestock eat and how long they stay in any particular area. Light grazing can cause more shrubs to grow. If grazing is heavy, more grass will grow instead.

How might grazing affect the food web in the wolverine's ecosystem?